PB87-191870

Superfund Record of Decision (EPA Region 3)
Industrial Lane Site--Operable Unit 1
Northampton County, Pennsylvania, September 1986

(U.S.) Environmental Protection Agency
Washington, DC

29 Sep 86

U.S. Department of Commerce
National Technical Information Service
NTIS

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United States
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Agency

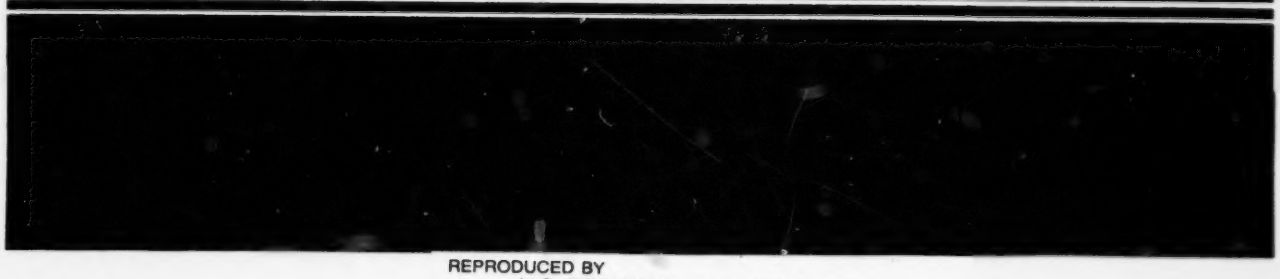
Office of
Emergency and
Remedial Response

EPA/ROD/R03-86/028
September1986

EPA

Superfund Record of Decision:

Industrial Lane, PA



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15. SUPPLEMENTARY NOTES

16. ABSTRACT

The Industrial Lane site encompasses approximately two square miles in Wiliams Township, Northampton County, Pennsylvania. A portion of the Chrin Landfill, a Pennsylvania Department of Environmental Resources permitted landfill, is on the site as are several active and abandoned industrial properties, commercial establishments, railroads and farming/residential areas. As a result of the detection of low level ground water contamination, the Chrin Landfill was placed on the NPL in February 1983. In addition to the preparation of a Remedial Investigation, two Feasibility Studies for the Industrial Lane site were also prepared. The first, known as Operable Unit I, focuses on the remedial alternatives for private well users. The second, Operable Unit II, will focus on remedial actions addressing ground water remediation. No consistent contaminant plume has been detected to date due to the complex geology of the area. Possible industrial activities contributing to the contamination include, but may not be limited to, iron ore extraction and iron works operations. The possibility also exists that refuse and/or other unknown substances were more recently disposed of into one or more of the iron ore extraction pits on the Chrin Landfill and industrial complex facility. While residential wells located upgradient of the Chrin Landfill have historically contained only background levels of VOCs, the chemicals detected in wells within the Glendon Boro residential community represent the primary contaminants of

(See Attached Sheet)

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Record of Decision Industrial Lane, PA Contaminated Media: gw Key contaminants: VOCs, TCE		

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16. ABSTRACT (continued)

concern. These include tetrachloroethene, trichloroethane, and chloroform.

The selected remedial action for this site involves the provision of an alternate water supply to approximately 15 households. Since existing curb service is available this action only involves installation of several lines to the designated households. The estimated capital cost for this action is $30,800 with no annual O&M.

Ground water in the Industrial Lane study area flows primarily under water table conditions. The Byram gneiss, which forms Morgan Hill, supports a semi-confined ground water system as a result of a poorly interconnected fracture system. Though only anomalous flow systems were identified, it is reasonable to expect they are caused by the major structural features and strata of low permeability silts and clays to cause isolated flow systems. The varied subsurface lithologies (such as dolomite, silt, clay, quartzite and gneiss) result in a complicated assortment of ground water velocities and flow paths. The majority of potential contamination sources are located in the carbonate region.

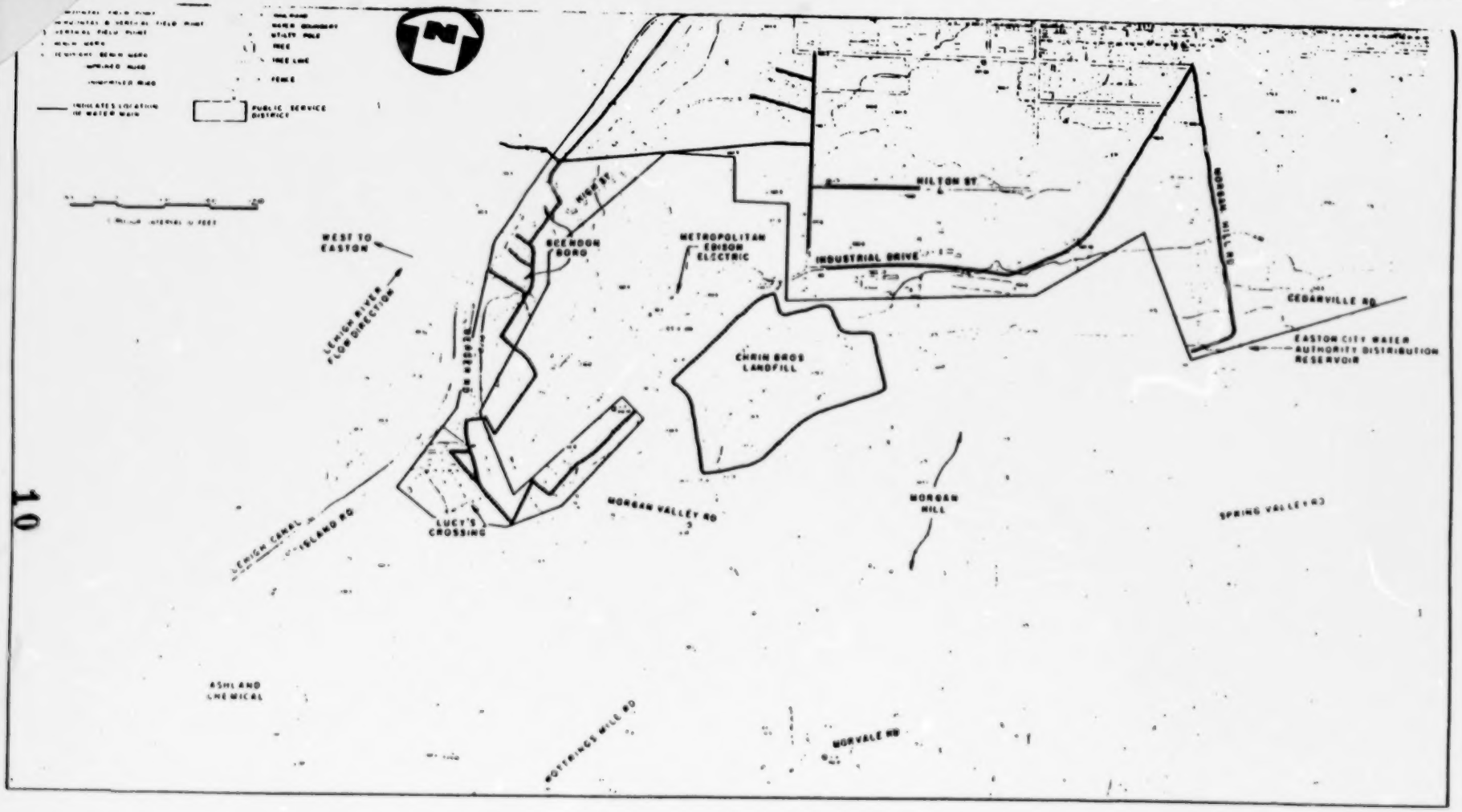
SURFACE WATER HYDROLOGY

Surface waters within the study area were evaluated both locally and regionally. An inventory of local surface waters includes Morgan Valley Creek (area 2 of Fig. 3), the unnamed tributary to the Lehigh River that drains the Chrin Landfill (area 1), the unnamed tributary to the Lehigh River which drains at South Easton (area 4), the unnamed tributary flowing past Ashland Chemical, and the unnamed tributaries flowing into the Delaware River on the eastern side of Morgan Hill. Aside from sedimentation control basins at the Chrin Landfill, no significant natural or man-made impoundments were identified. Regional surface water bodies include the Lehigh Canal, the Lehigh River, and the Delaware River.

SURFACE AND GROUNDWATER DRINKING SUPPLIES

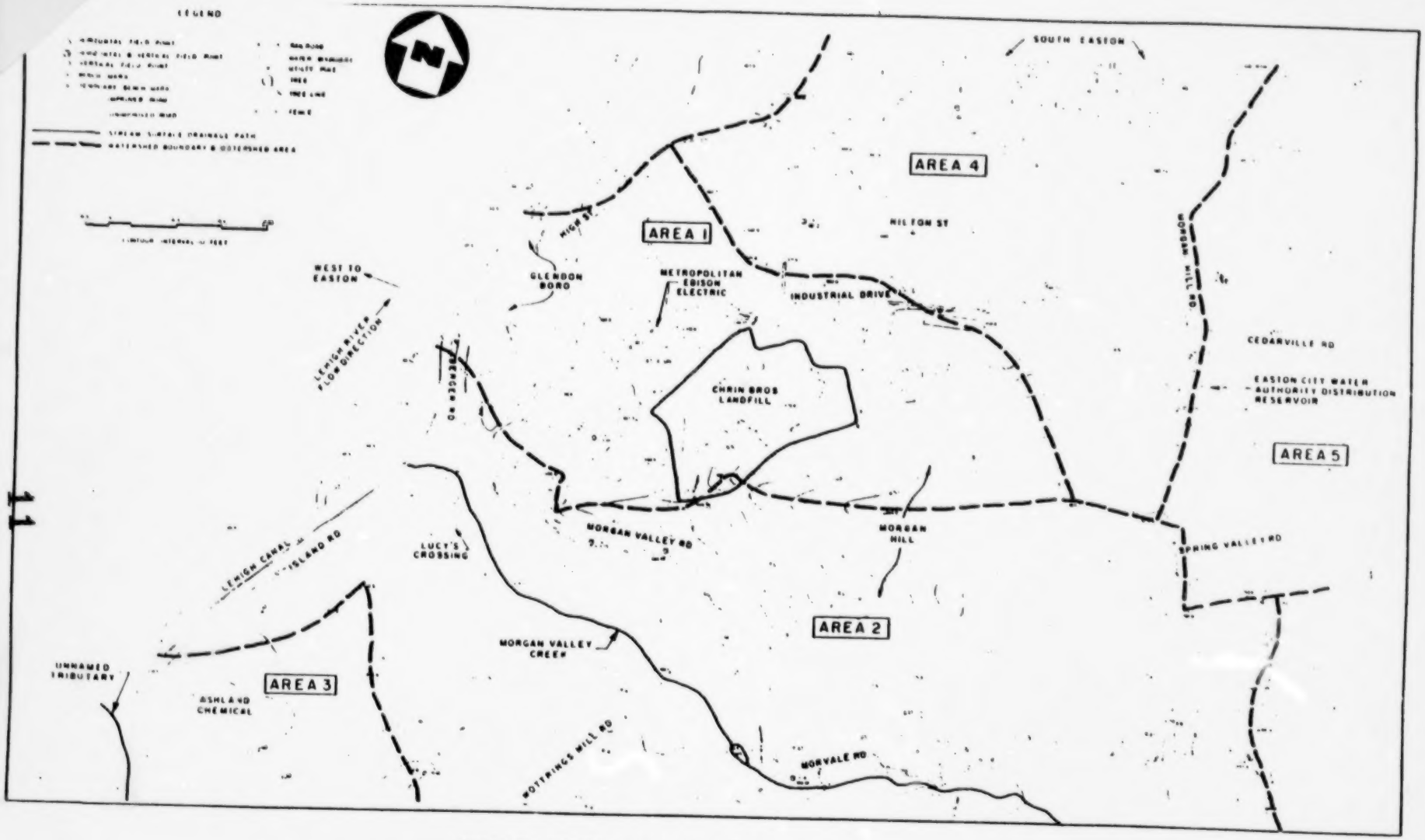
Water supplies for users within the study area come from both ground water and private domestic wells and from a public municipal distribution system. The public water system that extends into the study area is operated by the Easton Area Suburban Water Company. Water supplies for this system are purchased entirely from the city of Easton. The Company in turn draws 100 percent of its water from an intake on the Delaware River. This intake is located approximately 1-1/2 miles up the Delaware River from the confluence of the Delaware and Lehigh Rivers. The Easton Area Suburban Water Company distribution lines extend to all residential areas of the Industrial Lane study area except Morgan Hill. Residents of Morgan Hill, therefore, depend entirely on private wells, cisterns, or bottled water for domestic water needs. Though water main lines exist within the communities of Lucy's Crossing and Glendon, several individual home owners within these areas have chosen to use private wells. Figure 4 illustrates the general layout of the existing Easton Area Suburban Water Company's public service district within the study area and the locations of confirmed drinking water source wells still actively used within the study area.

Despite the availability of public water, Lucy's Crossing, Glendon and the Western End of Industrial Drive are still areas of concern due to the localized potential ground water situation through the use of private wells. The threat to the Western End of Industrial Drive however, has been virtually eliminated through the supply of public water from Easton Area Suburban Water Company.



EASTON AREA SUBURBAN WATER AUTHORITY PUBLIC SERVICE DISTRICT AREA
INDUSTRIAL LANE REMEDIAL INVESTIGATION, NORTHAMPTON CO., PA
(SCALE ABOVE)

FIGURE 3



SURFACE WATER INVENTORY MAP
INDUSTRIAL LANE REMEDIAL INVESTIGATION, NORTHAMPTON CO., PA.
(SCALE ABOVE)

FIGURE 4

Of the households that make up Lucy's Crossings, approximately 8 still obtain water from their own wells with one resident using well water for bathing and cleaning but not for drinking. Only individual home hook-ups are required to provide service. The remaining households already receive public water.

Glendon Boro consists of 35 residential homes approximately 28 of which receive public water and the rest which are now utilizing private wells for drinking water needs. (See Fig. 5)

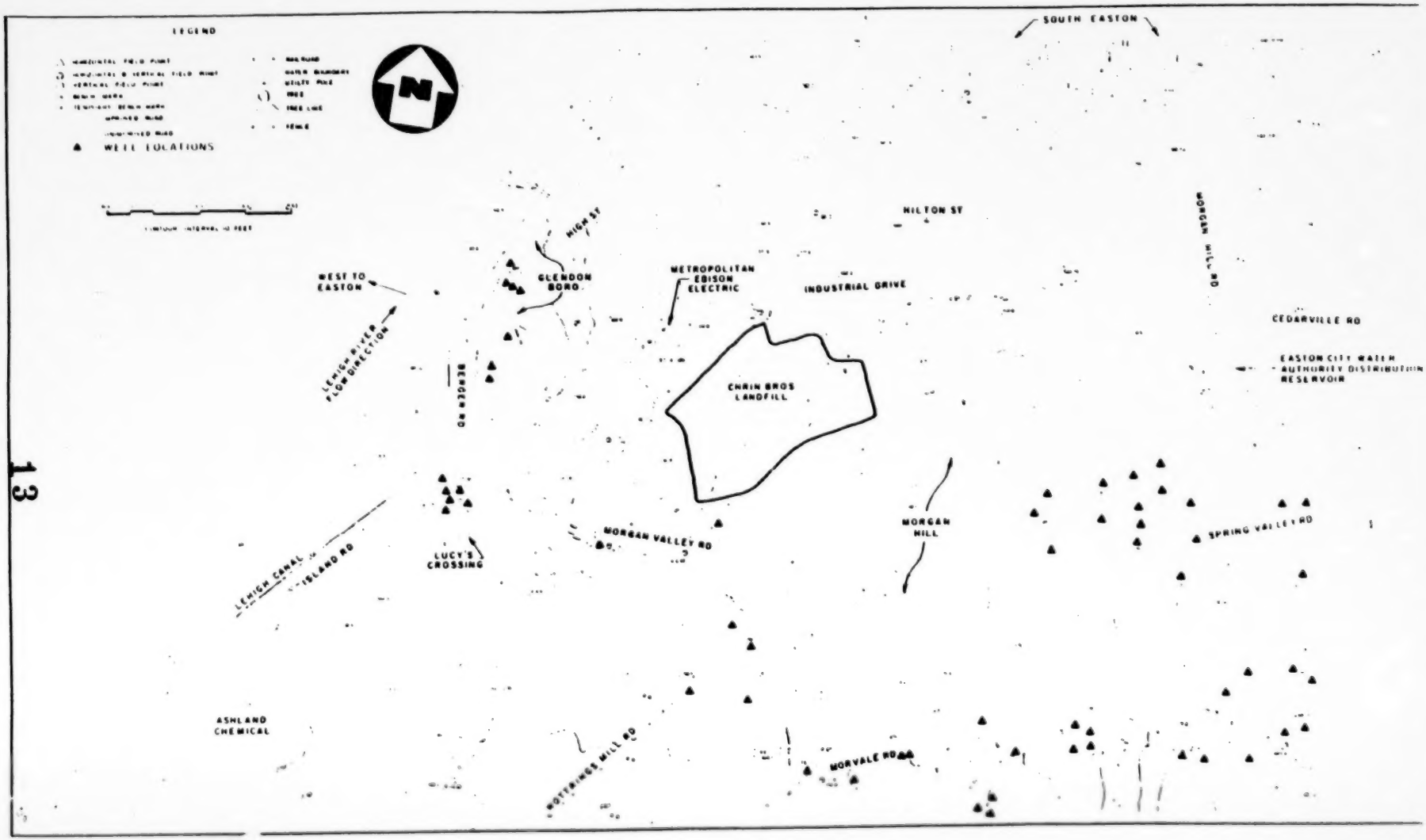
FINDINGS OF THE REMEDIAL INVESTIGATION/FEASIBILITY STUDY

During the Remedial Investigation, geologic and hydrogeologic investigations and water sample analysis were performed in the site area to determine subsurface conditions, ground water flow patterns and the mechanism for contaminant migration. The primary focus of the investigation was to identify a contaminant plume(s) and to ultimately identify the potential source(s) of the low-level, area-wide ground water contamination. These tasks were facilitated by conducting a literature review, a well drilling and groundwater monitoring program, a limited geophysical investigation, and a ground water monitoring and sampling program.

The analytical results from the study and ground water elevation data revealed that the greatest variety and most pronounced occurrence of ground water contamination is in the community of Glendon Boro. Residential wells down gradient of the landfill and the other potential contaminant sources were sampled. Compounds detected in groundwater samples from a number of the residential wells included tetrachloroethene, tricholoroethene, 1,1,1-trichloroethane, and chloroform.

No consistent contaminant plume could be detected. Indeed, some wells were found to contain chemical contaminants, whereas others located only a short distance away contained no detectable levels of contaminants. These apparently anomalous features are probably a manifestation of the lateral and vertical proximity of the various wells to bedrock fractures.

The Chrin Landfill lies directly upgradient of Glendon Boro and may be hydrologically connected to Lucy's Crossing. All chemicals detected in the residential wells have been found at higher concentrations in monitoring wells within and downgradient of the landfill. Wells located upgradient of the landfill have historically contained only "background" levels of any chemicals (i.e., isolated occurrences of volatile organic compounds or VOCs; generally less than 5ug/l [ppb]). The upgradient wells lie in proximity to the landfill, and the occasional occurrence of VOCs in these wells may be a result of influx caused by well purging prior to sampling.



13

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CONFIRMED DRINKING WATER WELLS

INDUSTRIAL LANE REMEDIAL INVESTIGATION, NORTHAMPTON CO., PA

(SCALE ABOVE)

FIGURE 5

A partial leachate collection system is in place at the landfill, however quantities of leachate are not captured and escape into the subsurface. Analytical results for leachate samples (coupled with results for the groundwater samples) indicate that HSL chemicals are being leached from the landfill waste deposits.

Primarily due to the lack of any discernable contaminant plumes, receptors could not be confidently tied to a single or multiple set of sources. Never the less, the available data is sufficient to provide a qualitative assessment of contaminant migration and source location indicating that the residents of Lucy's Crossing and Glendon are at a potential risk from ingestion of ground water. Carcinogenic risks could be incurred through drinking and through inhalation of volatile chemicals released from groundwater during showering.

The current carcinogenic risk for each exposed individual has been estimated to be approximately 1 x 10-6 (or a 1 in 1,000,000 chance that an exposed person will contract cancer over a 70-year lifetime of exposure) for residents of Glendon Boro, and 2 x 10-5 (or a 1 in 50,000 chance) for exposed persons living in Lucy's Crossing (NUS/FIT 1986). These risk estimates were established based on the average concentrations detected in contaminated residential wells from separate sampling rounds.

The potential future carcinogenic risk estimate was generated by assuming that a residential well would be placed in the immediate vicinity of the Study area's most contaminated monitoring well (N-8) because it has not been possible to characterize the transport and fate of the HSL chemicals in leachate from the landfill because of the complicated hydrogeology. The exposure assessment approach employed in the Endangerment Assessment (NUS/FIT, 1986) was coupled with these worst-case groundwater concentrations to arrive at an incremental cancer risk of 7 x 10-3 (ingestional and inhalational exposure through drinking and showering, respectively). This corresponds to a 1 in 140 chance that an exposed individual will contract cancer over a 70-year lifetime.

It should be noted that, although the future potential risks posed by the maximum concentrations in NUS monitoring well N-8 are much greater than those to which receptors are presently exposed it is unknown whether residential concentrations will reach, or possibly exceed, these levels. A number of factors such as dispersion, degradation, and adsorption should preclude concentrations in the residential wells from reaching levels similar to those in well N-8 unless contaminant release from the landfill or other sources dramatically increase in the future and cannot be attenuated by natural processes.

ALTERNATIVES DEVELOPMENT

The Feasibility Study - Operable Unit I, focused on providing remedial actions which would mitigate human health risks of the residential well contamination under present and future conditions for those residents in the highest risk areas, namely well users in Lucy's Crossing and Glendon Boro.

Based on the criteria of implementability, applicability to site

conditions, cost effectiveness, and technical development status the following alternatives were derived:

° Alternative 1 - No Action - under this alternative no-action would be taken to remediate the private wells. Present site conditions and environmental risks would continue with a possibility of natural deterioration in the future.

° Alternative 2 - No Action with Monitoring - Under this alternative, no remedial technologies would be implemented and no action would be taken at this time to remediate private wells. Essentially this alternative would involve a long-term (30 year) monitoring program for groundwater and private wells on a quarterly rotating basis and the construction of four monitoring wells, (2 per cluster) two near Lucy's Crossing and two near Glendon Boro.

The results of this program would be evaluated by a designated agency to track further migration of contamination.

° Alternative 3 - Alternative Drinking Water Supply - Since the Easton Suburban Water Company has existing curb service available to all homes in the communities of concern, installation of service lines from the street mains to the designated households would involve furnishing and installing a curb box, valve, 50 lineal feet copper pipe, trenching and backfilling.

° Alternative 4 - Individual Well Treatment Systems and Monitoring

Under this alternative, an individual treatment unit would be installed in each home using private wells in Glendon Boro and Lucy's Crossing. This involves the installation of a granular activated carbon (GAC) treatment unit consisting of a galvanized steel tank filled with GAC and a fiberglass tank for the temporary storage of back wash.

COSTS

The cost for each alternative are presented in Table 1.

RECOMMENDED ALTERNATIVE

Remedial Action No 3 - Alternative Drinking Water Supply was selected as the appropriate remedial action at the Industrial Lane Site.

The evaluation method used on each action consisted of the following criteria.

- ° Technical Aspects (effectiveness, useful life, performance, constructability time)
- ° Public Health and Environmental Concerns
- ° Institutional Issues (Regulations or performance standards)
- ° Cost (including Operation and Maintenance)

TABLE 4-1

REMEDIAL ACTION ALTERNATIVES COST SUMMARY
INDUSTRIAL LANE SITE
(COSTS ARE IN 1986 DOLLARS)

Remedial Action Alternative	Capital Cost	O&M Cost (per year)	Present-Worth
1. No Action	NA	NA	NA
2. No Action with Monitoring	$63,700	$44,160	$480,000
3. Tap-In to Public Water System	$30,800*	NA*	$30,800*
4. Individual Well Treatment Systems with Monitoring	$134,600	$91,920	$1,001,000

NA - Denotes Not Applicable
*Cost is approximate based on estimate of number of homes using private wells without public water supply.

Implementation of this alternative will eliminate the health risks associated with exposure to contaminated groundwater. By eliminating the potential for ingestion, inhalation, and direct contact, the public health would be adequately protected.

Those residents within Glendon Boro and Lucy's Crossing who elect to continue to use their private wells for nonpotable and non showering purposes are not expected to incur any risk. Non-potable water uses, such as car washing and watering of vegetable gardens, may have associated exposure pathways, but these are deemed insignificant.

Alternative No. 3 has no readily apparent occupational or public health risks associated with implementation. The low probability of construction-type accidents associated with heavy equipment operation and materials handling is not a major consideration.

The alternative water supply can be provided by the Easton Suburban Water Company once the installation of the individual service lines is complete. The cost of providing this service to the approximately 15 residents at risk is a capital cost of $30,800. This utility is licensed to provide public water.

If this alternative is implemented, existing domestic wells in the communities of concern maybe sealed. This could be implemented on an individual voluntary basis. The capital cost for sealing (including all construction and engineering mark-ups) is estimated at $500 per well. This is based on backfilling a 4 inch diameter, 100 foot deep well with a cement grout. This cost is not included in the cost of alternative No. 3, since it will be subject to the discretion of each affected resident.

An institutional issue of concern is the groundwater control required for future residential development in the site area. A potential requirement is restriction both of groundwater use by future developments and of future well construction at existing residences.

EVALUATION OF ALTERNATIVES NOT SELECTED

The other alternatives considered at the Industrial Lane Site were rejected on the following bases:

1- No Action

Since no-action would be taken no costs would be incurred. However, as discussed earlier, the residents of Glendon and Lucy's Crossing are at risk from the ingestion of contaminated groundwater. The groundwater risks for present use are 1×10^{-6} for residents of Glendon and 2×10^{-5} for residents of Lucy's Crossing. As discussed earlier, potential future risks may be as high as 7×10^{-3}

EPA policy is to consider a risk range of 10^{-4} to 10^{-7} in determing an acceptable risk level for carcinogens with a 10^{-6} level as a target. Current risks in Lucy's Crossing exceed this target and are only maraginally

meet the target in Glendon. Potential future risks far exceed the target. Since the compliance with the target risk level is not assured, the no action alternative was rejected.

2- No Action with Long-Term Monitoring

This alternative is the same as alternative No. 1. However it would involve construction of (4) new wells, sampling, laboratory testing and regulatory monitoring. The purpose of the 30 year monitoring program is to determine whether contamination decreases to acceptable levels through natural flushing processes, or if contaminant levels are increasing and further remedial actions are necessary.

Monitoring will serve as a warning program to current private well users but will not protect them against possible increases in contaminant levels.

Also, institutional restraints such as Right of Entry Agreements between EPA and private property owners would be required. The total cost of the monitoring program is projected at $480,000 present net worth including 30 years of operation and maintenance.

Monitoring is less protective and more costly than providing an alternative water supply. For these reasons it was rejected as not being cost-effective.

4- Individual Well Treatment Systems - GAC

The intent of this alternative is to eliminate the present and future health risks associated with the potable and non potable use of contaminated groundwater.

Granular activated carbon (GAC) can remove a broad range of organics from drinking water. However, it is not effective in treating vinyl chloride which is a known potent carcinogen and has been detected in well N-8. If vinyl chloride were to appear in private wells the GAC unit would be in-effective in mitigating exposure.

Considering the questionable level of future protection provided by the units, the $1,001,000 cost of capital equipment and operation and maintenance, this alternative was rejected as being unreliable and not cost-effective.

COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Implementation of the preferred alternative will be done in accordance with all applicable Federal, State and Local laws and regulations regarding the installation of water lines. The source of the public water is the Easton water supply system which is fully licensed to distribute public drinking water.

OPERATION AND MAINTENANCE

There will be no operation and maintenance associated with the preferred alternative.

SCHEDULE

Initiate Design	November 1986
Complete Design	January 1987
Begin Installation	April 1987
Complete Installation	August 1987

Note: The schedule is contingent on CERCLA being reauthorized in October 1986

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

Post Office Box 2063
Harrisburg, Pennsylvania 17120
September 10, 1986

Bureau of Waste Management (717) 783-7816

Ms. Lorna Shull (3HW21)
U.S. EPA - Region III
841 Chestnut Building
9th & Chestnut Streets
Philadelphia, PA 19107

Dear Ms. Shull:

This letter is in response to your request to provide comments on the final draft Focused Feasibility Study Operable Unit 1 for the Industrial Lane Site located in Williams Township, Northampton County, Pennsylvania, dated August 1986. The Department has reviewed this document and supports the Remedial Action Alternative No. 3 - Tap-In to Public Water System. This alternative involves the installation of water service lines from the East Suburban Water Company's existing street water supply mains to residential buildings located in the communities of Glendon and Lucy's Crossing. The estimated capital cost of this remedial action alternative is $30,800.00, with no Operation and Maintenance (O&M) costs.

Do not hestitate to contact me if we can offer any additional assistance.

Sincerely,

Donald M. Becker, Chief
Remedial Response Section
Division of Emergency & Remedial Response
Bureau of Waste Management

INDUSTRIAL LANE SITE
WILLIAMS TOWNSHIP
NORTHAMPTON COUNTY, PENNSYLVANIA

RESPONSIVENESS SUMMARY
OPERABLE UNIT 1

SEPTEMBER 1986

This community relations responsiveness summary is divided into the following sections:

Section I. Overview. This section discusses the EPA's preferred remedial action alternatives and the anticipated public reaction to this alternative.

Section II. Background of Community Involvement and Concerns. This section briefly describes the history of community interest and concerns that arose during remedial planning activities at the Industrial Lane Site.

Section III. Summary of Major Comments Received during the Public Comment Period and the EPA's Responses to these Comments. Comments received are summarized and categorized according to topics. The EPA's responses are also summarized and included.

Section IV. Remaining Concerns. All remaining concerns that the EPA or the Pennsylvania Department of Environmental Resources (PADER) should be aware of during the remaining remedial activities program for this site are discussed in this section.

In addition to the above sections, Attachment A provides a listing of community relations activities that were conducted during the remedial response activities at the Industrial Lane Site.

I. Overview

The draft Focused Feasibility Study - Operable Unit 1, prepared for the Industrial Lane Site, presented four remedial action alternatives for private well users in the

study area. During the public comment period, at an open meeting held in the community, the EPA discussed its preferred alternative. If this alternative is implemented, those residences that depend on private wells for drinking water and that are now at risk due to site contamination, as well as those that are perceived to be potentially at risk, will be connected to the public water supply lines of the Easton Suburban Water Authority. These waterlines are already in place and only need be connected to the designated houses. This alternative will protect the public health by eliminating potential exposure to contaminated groundwater.

All indications are that community residents, local officials, and the PADER support this alternative.

II. Background of Community Involvement and Concerns

Community interest in the quality of area groundwater became apparent in 1978 when the operator of the Chrin Brothers Landfill applied to the PADER for permission to expand the facility. This landfill is located within the study area now known as the Industrial Lane Site. Local citizens suspect the landfill has contributed to local groundwater contamination. When the community learned that the landfill owners planned to expand the landfill, many residents began to question the potential impact of the facility on local groundwater quality. They also began to wonder if hazardous wastes may have been deposited in the landfill, either legally or illegally.

Local officials representing Williams Twp., Glendon, Easton and other nearby communities have shown continuing interest and concern in ongoing site activity and generally have been supportive of the investigations into site-related contamination.

A citizens' group called SOLVE (Save Our Lehigh Valley Environment) formed in 1981 to fight the landfill expansion and to investigate local groundwater quality and the possibility that hazardous wastes may have been disposed in the area. To these ends, SOLVE has published newsletters discussing its concerns and has retained an attorney and contracted with a hydrogeologist from the University of Pennsylvania to perform a groundwater analysis of the study area. The group also requested shipping manifest information from neighboring states and shared the information it received with both the EPA and the PADER. In addition, site-related documents have been provided to the group, under the Freedom of Information Act, by both agencies.

Major concerns expressed during the remedial planning activities at the Industrial Lane Site included concerns about the identity of contaminants at the site, the source(s) of those contaminants, the potential health effects of the contaminants, the adequacy of groundwater monitoring, the proposed landfill expansion, and whether the EPA would pay for alternative water supplies prior to implementing a remedial action alternative.

Test results identifying contaminants and information describing potential health effects were provided to the public by the EPA; however, the source(s) of contamination is still unknown. Ongoing studies are intended to discover the answer to that question. In August 1986, DER approved the Chrin Brothers. application to expand their landfill under the provision that such expansion does not interfere with the ongoing Superfund cleanup.

III. Summary of Public Comments Received during the Public Comment Period and the EPA's Responses to Those Comments.

Comments presented to the EPA during the Industrial Lane Site public comment period from August 29, 1986 to September 19, 1986 are summarized below.

Because the EPA's preferred alternative appears to be unanimously supported by state and local officials and local residents and because no negative comments were received regarding the preferred alternative, no discussion of other remedial alternative preferences appears.

The comment summaries are categorized by topic and presented in descending order of the number of comments received.

Selected Remedial Alternative (Waterline Hook-up)

Several questions were received concerning the proposed hookup to the public water supply line.

1. The issue of greatest concern in this category was which residences were actually going to be connected to the public water supply. Several people were concerned that their homes or the homes of their neighbors had been excluded from the list presented in the draft EPA report. Some were concerned that homes with wells that were not currently contaminated, but that might be contaminated in the future, would be overlooked. One resident expressed concern that a neighbor whose well was contaminated but who was "over 300 feet" from the water main would not be connected. Two residents asked if everyone in the Boro of Glendon would be connected. Residents and local officials suggested that the EPA meet with community members in the near future to determine which homes should be connected to the waterline.

EPA Response: The EPA's intention is to hook-up everyone in Glendon and in Lucy's Crossing, within the study area, who is not already connected and whose well is either contaminated now or has a potential for contamination in the future. For the EPA's purposes, the study area extends approximately from High Street and Berger Road to Lucy's Crossing.

It is important to remember that the RI and the FS reports are still in draft form and that the EPA is soliciting public comment, in part, to be certain that all of the affected residences are contacted.

If anyone has information about any residence that should be on the EPA's list but is not, the EPA would like to have that information. EPA offered to set a date to meet with local officials and local residents to be sure that no one who is affected is overlooked.

2. Two residents and some local officials expressed concern about the costs that will be connected with waterline hookups. While the residents seemed concerned about the initial cost of waterline connection, one official stated that he believed the additional expense of a monthly water bill might create a hardship situation for some area residents.

EPA Response: The remedial action alternative, as presented in the report, will include the following: a curb box; a valve; 50 lineal feet or more, as necessary, of 1-1/2-inch diameter copper pipe; all trenching and backfill; and the water meter. "Door-to-door service" will be provided by the water company and paid for by the EPA. The only thing that residents will have to pay is the monthly water bill.

3. The anticipated date that water line connections will commence was of concern to some residents and local officials.

EPA Response: The EPA is restricted right now by a lack of funding. The Agency has not had the authority to collect money through the Superfund for almost a year.

As soon as the Superfund bill is reauthorized work at the Industrial Lane Site can begin. It is EPA's understanding that passage of the Superfund bill is imminent.

Waterline Extension

Several questions were received concerning extension of the waterline in addition to the proposed waterline hookups.

1. Three residents suggested that it would be cost effective for the EPA to extend the waterline throughout the Boro of Glendon. They pointed out that areas surrounding the Industrial Lane Site (most notably, Ashland Chemical Company Property) are potential problem areas that may not come to public attention for a number of years, at which time costs will be higher due to inflation. It seemed to these citizens that the most economical course of action would be to expand the study area and extend the waterline while the EPA was already working in the area. One of those residents stated that he would gladly pay for his own connection, if the EPA extended the line.

EPA Response: The EPA intends to connect homes that are or may be impacted by the contamination that is present in our study area now.

Groundwater problems in surrounding areas may not be related to the Industrial Lane Site. However, if information is discovered that leads the Agency to believe there is a connection between this site and another or that other residences could be impacted by this site, then the Agency will reassess the situation.

Whatever remedial action alternative the EPA chooses, groundwater monitoring will be present for many years to come. If there are additional contaminants coming into the area they will be detected.

2. One citizen suggested that consideration should be given to extending the waterline into areas of expected future growth, if those areas are potentially at risk from site-related contaminants in the groundwater.

EPA can address only those homes which are now existing. It cannot extend the water line in anticipation of future development.

Shipping Manifests

SOLVE expressed considerable concern about wording in the remedial investigation (RI) report that refers to the shipping manifests that the group collected from other states and presented to the DER and the EPA as "alleged". The report stated that the manifests were unsigned, and, while SOLVE is upset by these statements, the group says that their main concern is that this information is being used by persons in favor of the landfill expansion plan to support that interest. SOLVE members were concerned that the EPA appeared to be ignoring the group's information.

EPA Response: At this point, the verity of the manifests is alleged. That does not mean that the EPA's investigation is closed. Any and all documents that the Agency finds or is given will be addressed in the enforcement portion of this investigation. The EPA's search for potentially responsible parties (PRPs) is still open.

2. SOLVE requested the name of the specific person who will be involved in reviewing the final RI document so that the group can contact that person and be sure that the final RI document contains accurate information about the shipping manifests.

EPA Response: Paula Luborsky, Enforcement Project Officer stated that she was the enforcement project officer for the Industrial Lane Site. She said it must be understood that the feasibility study (FS) is not the same thing as a search for potentially responsible parties (PRPs). A PRP search is done to determine who is responsible for site contamination, and it is not interchangeable with an FS.

TYPES AND CONCENTRATIONS OF CONTAMINANTS

1. A resident commented that a neighbor was told by the person who delivered the well sample report that the family's well was highly contaminated.

EPA Response: The contaminant concentrations that were found in the wells in the area for all four contaminants of concern was under 5 ppb, so certainly the well is not highly contaminated. The person who made that statement was wrong.

2. Two residents expressed concern about vinyl chloride; the first questioned whether that substance had been found in any wells other than well number (N-8) during the RI. The second resident stated that vinyl chloride had been found by the PADER in well number (N-9) in January 1985 and in well number 3 in July 1984.

EPA Response: Question 1 - During the RI, vinyl chloride was detected only in well number (N-8). The source has not been determined. However, because of the risk posed by that particular well to the public and environmental health, the EPA feels that it is necessary to go back out into the field and trace that source. The Agency will perform a groundwater evaluation and remediation study. This will involve installing more wells and performing pump tests. A date for this study depends on Superfund reauthorization.

Question 2 - EPA has been provided with past DER sample results. A summary of those results, although not each individual finding, is included in the RI/FS. Regarding vinyl chloride specifically, EPA will examine its files to be sure this data was received.

CONTAMINANT SOURCE AND PLUME IDENTIFICATION

1. A member of SOLVE expressed frustration that the EPA has not given the group or the community any satisfaction about the source of contamination despite the information provided to the EPA by the group. A second individual inquired if the EPA intended to install any additional monitoring wells down gradient of well number (N-8) to determine if a contaminant plume exists.

EPA Response: The EPA has not yet pinpointed a contaminant source due primarily, to the complex geology of the area. In the next phase of our remedial program, Operable Unit 2 will focus on source identification and on groundwater remediation. Monitoring wells will be placed down gradient from monitoring well number (N-8) as a part of that effort.

2. Another citizen inquired about who would be billed for site remediation.

EPA Response: Unknown

THE SCHWAR WELL DATA

1. Members of the group SOLVE raised questions concerning the treatment in the RI of data from the Schwar well. They were concerned that the well was not listed as a residential well and that it was not reinvestigated during the RI. It seemed to some that the Schwar well test results should have been used as a basis for conclusions in the endangerment assessment. These people did not understand why the EPA did not consider sample analysis from an earlier study conducted by E&E, an EPA contractor, to be verifiable.

EPA Response: The EPA contractor had historic data that was collected prior to the RI. No additional data was collected during the RI because the Schwar well was closed when the RI began. Because no blanks were drawn during the earlier study by another EPA contractor, it was impossible to conduct quality assurance and quality control of the Schwar well sample data. Therefore, the current EPA contractor determined that the information could be listed as historic data but not as verifiable data. So, the data was not tabulated and incorporated into the endangerment assessment.

An EPA toxicologist stated that the inclusion of the Schwar well data would not change the outcome or the level of risk associated with those communities.

CONTAMINANT MIGRATION AND RISKS

Some residents were concerned about the possibility that the migration of contaminants in the groundwater could potentially impact wells on Morgan Ridge.

1. There is concern that contamination from the landfill might migrate to one particular well (the Deegan well) on Morgan Ridge. This concern arises from the fact that the well is 460 feet deep which places the bottom of the well at the same elevation as the Chrin Brothers Landfill.

EPA Response: Groundwater and groundwater contamination will flow from a higher gradient to a lower gradient. It will not flow uphill. According to data collected from monitoring wells and to the elevations of the water in those wells and the elevations of the topography, both the topography and the groundwater are higher in the Morgan Ridge area than in the landfill area. This means that there will only be flow from the crest of Morgan Hill down to the lower area; there will not be a backflow going upward toward the wells on Morgan Ridge. Therefore, the EPA feels that there is no threat of contamination from the landfill to any wells on Morgan Ridge.

2. There was additional concern that development presently occurring in the Morgan Ridge area or that may occur there in the future would place an increased demand on the groundwater supply and that the addition of residential pumping wells could cause groundwater and contamination to be drawn uphill from the Chrin Brothers Landfill. This concern was intensified by a report produced by a hydrogeologist hired by SOLVE. The report stated that there was a definite possibility that such a scenario could occur.

EPA Response: It is the professional opinion of the EPA's enforcement project manager, who is a trained hydrogeologist, that there is no possibility for this to happen. Because of the geology in the area and the distance and gradient variations from one point to another, the EPA does not believe that residential pumping wells, now or in the future, can draw contaminants from 1800 to 2000 feet away.

The EPA's project manager stated that she would appreciate it if SOLVE would send her a copy of the hydrogeologist's report. She also expressed an interest in talking with the consultant to discover if he had additional site-related information that had caused him to believe such a possibility existed.

3. One citizen was concerned that receiving a letter about the site from the EPA meant that his well was at risk.

EPA Response: Everyone on the EPA's mailing list received one of these letters whether or not they were potentially affected by the site, including the newspapers.

ASHLAND CHEMICAL COMPANY

1. One resident stated that the Ashland Chemical Company, located near the southwestern edge of the Industrial Lane Site, had closed its onsite drinking water wells and was using bottled water. The resident also stated that Interstate 78, which was originally intended to cut across the Ashland Chemical Company's property had to be redesigned because a chemical dump containing buried drums has been found in the area originally proposed for the highway. This citizen felt that, if Ashland Chemical Company's water was unsuitable for drinking, area residents were probably consuming water that was unhealthy. He felt that, if EPA was in the area addressing the question of a public water supply, the Agency should consider providing water to all of Glendon Boro. A second citizen agreed that it seemed an economically sound idea for the EPA to take care of problems at the Ashland site while the Agency was already working in the area.

EPA Response: What is happening at the Ashland Chemical Company is not necessarily related to the Industrial Lane Site study area. Ashland is in a different watershed, so contamination there probably is not related to contamination appearing in the Industrial Lane Site study area.

PADER Response: The Ashland Chemical Company case is part of a continuing, joint PADER/EPA investigation. It has long been of concern for the Norristown PADER regional office and for the Bethlehem PADER district office. The agencies have been monitoring and inspecting the facility on a regular basis.

If Ashland has chosen to use bottled water, that is a company decision not an agency decision.

IV. REMAINING CONCERNS

Concerns that remain include contaminant sources and the specific residences that will be connected to the public water supply. As stated previously, these issues will be addressed in the continuing RI, as soon as funds become available.

The verity of the shipping manifests continues to be an important issue for members of SOLVE who want to block the expansion of the Chrin Brothers Landfill until the current groundwater problems are clearly defined and remediated. The group is very concerned that the draft document has invalidated the manifests as support for SOLVE's efforts to halt landfill expansion.

ATTACHMENT A

COMMUNITY RELATIONS ACTIVITIES CONDUCTED
AT THE INDUSTRIAL LANE SITE

Community relations activities conducted at the Industrial Lane Site to date include the following:

- An EPA press release announced the addition of the Industrial Lane Site to the Superfund list. (September 1984)

- Following the preparation of a Remedial Investigation Work Plan, the EPA conducted a public meeting in the community to inform residents of upcoming events and the Superfund process. A fact sheet that described RI/FS objectives was prepared for this meeting. (October 1984)

- Information repositories were established at the Glendon Boro Building and the Williams Township Building in Easton, Pennsylvania. (October, 1924)

- EPA conducted community interviews with local citizens and local officials. (February 1985)

- EPA prepared a Community Relations Plan for the site. (March 1985)

- A draft RI report and a draft Endangerment Assessment were released to the public. (June 1986)

- A draft focused FS report was released to the public. (August 1986)

- A press release announced the availability of the documents, the opening of the public comment period, and the time of the public meeting in the community. (August 1986)

- EPA met with SOLVE in EPA Region III offices in Philadelphia. (September 1986)

- A public meeting was held in the community and local officials were briefed on the preferred alternative. A fact sheet describing remedial alternatives was prepared for the public meeting. (September 1986)

- The public comment period opened on August 29, 1986 and closed September 19, 1986.

- A Responsiveness Summary was prepared for inclusion in the ROD. (September 1986).

Record of Decision
Remedial Alternative Selection

Site: Industrial Lane Site - Operable Unit I
Northampton County, Pennsylvania

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Documents Reviewed

I am basing my decision primarily on the following documents describing the analysis of cost-effectiveness and extent of contamination at the Industrial Lane Site as determined during the Remedial Investigation/Feasibility Study.

- Industrial Lane Site Remedial Investigation
  NUS Corporation
  June 1986

- Industrial Lane Site Endangerment Assessment
  NUS Corporation
  June 1986

- Industrial Lane Site Focused Feasibility Study,
  Operable Unit I Private Well Users
  NUS Corporation
  September 1986

- Staff summaries and recommendations

- Public Comments and Responsiveness Summary

- Letter of concurrence from Commonwealth of Pennsylvania

Description of Selected Remedy for Operable Unit I

Alternative Number three (3) Alternative Water Supply has been selected, which consists of hooking up numerous private well users in two high risk areas, Lucy's Crossing and Glendon Boro to existing water mains belonging to the Easton City Suburban Water Authority. No operation and maintenance is necessary for this remedy.

Declarations

Consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the National Contingency Plan (40 CFR Part 300), I have determined that hook-up to the existing public water system, Alternative 3, is the most cost-effective remedy for the Industrial Lane Site. As a result of the Remedial Investigation, Endangerment Assessment and Focused Feasibility Study, implementation of the selected remedy will mitigate current and future risk to public health from the consumption of contaminated groundwater associated with the Industrial Lane Site.

I have also determined that the action being taken is appropriate when balanced against the availability of Trust Fund monies for use at other sites.

Stanley L. Laskowski
Deputy Regional Administrator
Region III - EPA

Date

The Deputy Regional Administrator's signature and the ROD signature date, September 29, 1987, did not xerox well from the original.

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RECORD OF DECISION
SUMMARY OF REMEDIAL ALTERNATIVE SELECTION
INDUSTRIAL LANE SITE
NORTHAMPTON COUNTY, PENNSYLVANIA

SITE LOCATION AND DESCRIPTION

The Industrial Lane Site is a geologically varied and complex area which encompasses approximately 2 square miles in Williams Township, Northampton County, Pennsylvania (See Figure 1) . The study area borders on the Southern boundary of the City of Easton and the Lehigh River to the north and northwest. The community of Glendon, which includes Lucy's Crossing and Glendon Boro, is located to the west and southwest portion of the study area. Key features within the study area are an active Pennsylvania Department of Environmental Resources (PADER) permitted landfill known as the Chrin Landfill, several active and abandoned industrial properties, commercial establishments, railroads and farming/ residential areas. The area has a long history of industrial activity that has impacted the surface and subsurface of the region.

In 1980, low level groundwater contamination was detected in the area, at which time Chrin Landfill was called to the attention of the Environmental Protection Agency's (EPA) Superfund program. The site was placed on the National Priorities List (NPL) in February 1983. After the site was placed on the NPL EPA conducted a Remedial Investigation (RI) in order to characterize the type and extent of contamination at the site and evaluate the potential public health and environmental concerns. In addition to the RI, two Feasibility Studies (FS) for the Industrial Lane Site were prepared. The first, known as Operable Unit I, focuses on the remedial alternatives for private well users. The second will focus on remedial actions addressing groundwater remediation in the study area.

This Record of Decision (ROD) will address Operable Unit I; the selected alternative of remedial action for private well users.

SITE HISTORY

During the Remedial Investigation phase of the study, a review of available historical photographs and additional documentation was conducted. It has been concluded from this investigation that:

° Significant industrial activities characterized the Industrial Drive area before development of the Chrin Landfill. The most notable include; the Pennsalt Industrial Complex, which operated during the early 1890s', the Glendon Iron Works, which operated between 1844 and 1896; and limited iron ore extraction activities which occurred between 1840 and 1890.

° Scattered industrial development was also observed north and northeast of the Chrin Landfill on 1947 aerial photographs. The area corresponds with the present day locations of Easton Car and

SOURCE: USGS EASTON, NJ–PA QUAD. (7.5 MINUTE SERIES) 1973

LOCATION MAP

FIGURE 1

INDUSTRIAL LANE STUDY AREA, NORTHAMPTON CO., PA

SCALE 1" = 2000'

Construction, Specialty Products, and Dynatherm, Incorporated. These facilities were all in existence prior to the development of the Chrin Landfill and prior to the enactment of present day State and Federal environmental regulations.

° The Chrin Landfill and adjoining properties to the northeast have had a documented history of iron ore extraction activities. The probable location of at least three of these extraction pits or shafts fall within the area which is presently occupied by the Chrin Landfill and the abandoned Pennsalt Industrial Complex.

° The possibility exists that refuse and/or other substances were disposed into one or more of these pits on the Chrin Landfill and Pennsalt facility area.

The Chrin Site remained undeveloped and slightly wooded until 1958 when the current owner/operator purchased the property and began landfilling activities in 1961. The landfill is now active and operates under a PADER sanitary landfill permit. The landfill consists of 30 acres, but a 13 acre expansion east and adjacent to the landfill for municipal and demolition waste has been proposed by the owner and approved by PADER. Significant changes to the area are expected to occur along the proposed I-78 right-of-way corridor which will extend east to west approximately 850 feet north of Industrial Drive and near the Chrin site. Zoning changes in the area will occur to provide for commercial development along the highway.

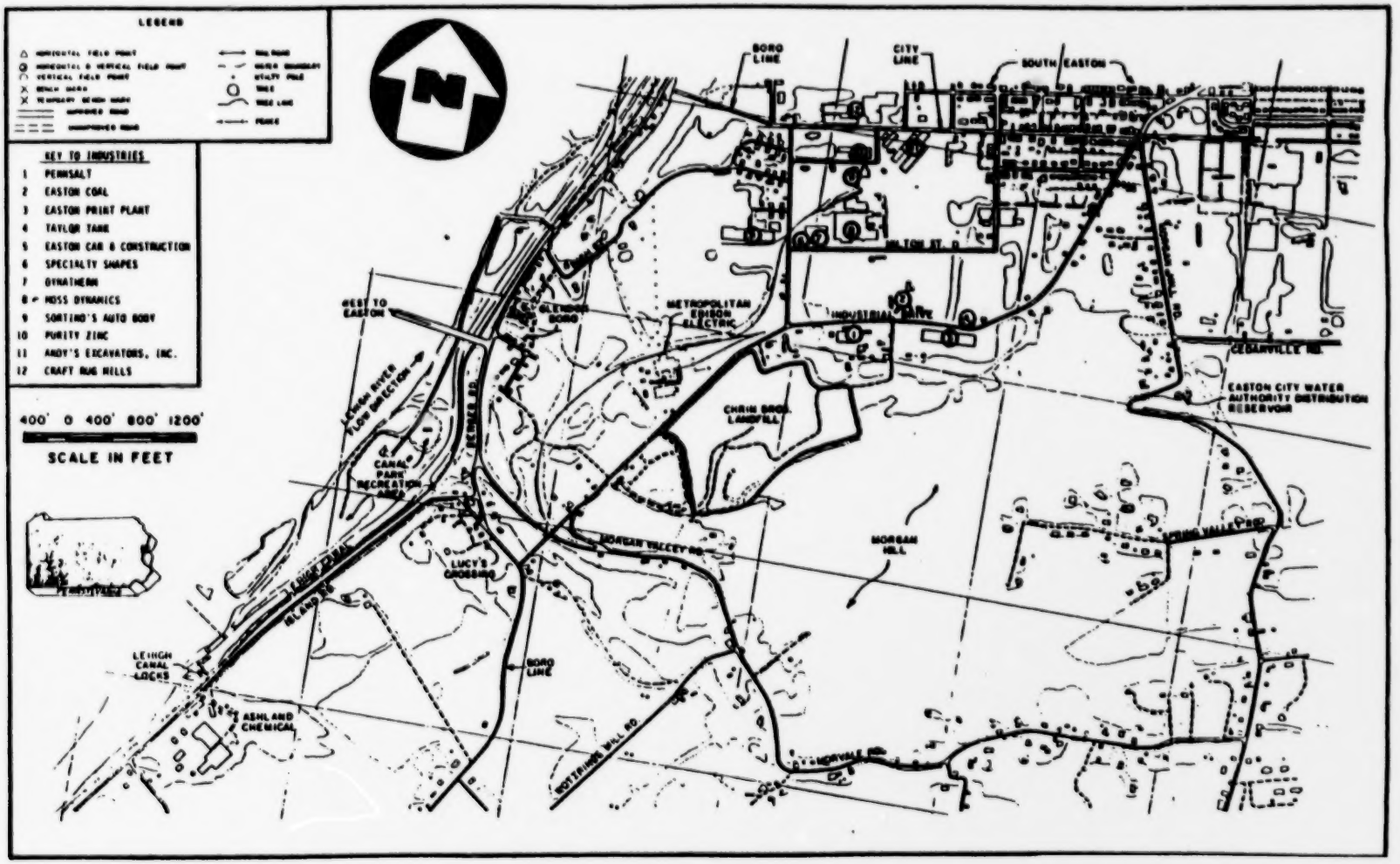
LAND USE

The land use in the Industrial Lane Site study area is light industry, single family dwellings, forests and cropland. The light industry includes the Chrin Landfill along with 10 other active industries. The single/family dwellings are concentrated in the communities at Glendon Boro, Lucy's Crossing and Morgan Hill. Forests occupy the land just east of the landfill that extends upward to Morgan Hill and crop lands occupy parts of the Morgan Valley and Glendon areas (See Figure 2).

SITE GEOLOGY AND HYDROGEOLOGY

Geologically, the region consists of highly weathered and structurally deformed rocks which are older than 500 million years, from the Cambria and Precambrian era. Few outcrops exist in the area owning to the difficulty in determining the complete structural geology. In addition, the Musconetcong Fault runs through a portion of the Site. These conditons have created a complex geologic setting.

Compression forces have generated deformation which has left the area with more or less parallel longitudinal folds consisting of crystalline rock overlain by sedimentary strata. These folds are broken by faults but tend to follow the general northeast-southwest trend of the strata. Extensive weathering of the Precambrian crystalline rock and cambrian strata have left large clay deposits such as the one on which the Chrin site was constructed.



LOCAL INDUSTRIES

INDUSTRIAL LANE REMEDIAL INVESTIGATION, NORTHAMPTON CO., PA.

(SCALE ABOVE)

FIGURE 2